United States Department of Agriculture

Research, Education, and Economics
Agricultural Research Service

September 11, 2007

Results of the second sampling (September 10th) of the 2007, First-Stubble, Sugarcane Maturity Test at the USDA-ARS Sugarcane Research Laboratory's Ardoyne Research Farm at Schriever, LA are attached. The study is designed to examine the natural ripening process of the first-stubble crop in 2-wk increments, and compare the results for the same harvest dates over a 5-yr period (2003 – 2007); consequently, a glyphosate-containing ripener is not applied. Samples consist of 15, hand-cut stalks of clean, trash-free and properly topped cane from each of four replications. **When mechanically harvested, one can expect TRS/TC levels to be 10 to 20% lower as a result of additional trash in the cane.** The study includes eight released Louisiana varieties: LCP 85-384, HoCP 85-845, HoCP 91-555, Ho 95-988, HoCP 96-540, L 97-128, L 99-226, and L 99-233 and the newly released variety HoCP 00-950.

The Ardoyne Farm has received timely rains throughout the growing season. Since the first sampling, the farm received approximately 2.5 in. of rain in four separate rain events, and at the time of this sampling, the crop is not lodged. During the 2-wk interval, the crop grew an average of 8 in. and increased in weight by 0.1 lbs./stalk. Growth of 10 in. or more was obtained with HoCP 96-540, L 99-226, and L 99-233. However, as an average, the stalks are 0.2 lbs. lighter and 2 in. shorter than in 2006 and would be considered average in stalk height and weight when one considers the 5-yr average. Density measurements began in 2006. Despite the smaller stalks in 2007 compared to 2006, stalk densities are only lower for HoCP 91-555, HoCP 95-988, and HoCP 96-540. The newly released variety HoCP 00-950 continues to have some of the shortest stalks of the varieties in this test, but its stalks are only 0.2 lbs. lighter than the taller HoCP 95-988 and L 99-226.

Brix, sucrose, and purities continue to be higher in 2007 than in 2006 at this sampling date, and as a result, the average theoretically recoverable sugar (TRS) levels are nearly 37 lbs./ton of cane (TC) higher in 2007 than in 2006. The varieties with the smallest increase in growth: LCP 85-384, LCP 85-845, HoCP 91-555, HoCP 95-988, L 97-128, and HoCP 00-950 had the greatest increase in TRS levels averaging 32 lbs/TC while the varieties that grew the most: HoCP 96-540, L 99-226, and L 99-233 only showed an average increase in TRS/TC of 17 lbs. Like stalk weight and height, when one considers the 5-yr average for the core varieties, TRS levels would be considered average for this time of year. Of the varieties with major plantings for harvest in 2007, L 97-128 continues to have the highest early TRS levels producing nearly 210 lbs. of sugar/TC. This is approximately 32 lbs./TC higher

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than HoCP 96-540. One of the strongest arguments for the release of HoCP 00-950 is its early maturity. As can be seen, HoCP 00-950 has the highest TRS/TC level at 242 lbs., which is 32 and 64 lbs./TC higher than L 97-128 and HoCP 96-540, respectively. Again, please remember that these sugar levels are based on hand-cut and properly topped samples.

The third sampling for the maturity test is scheduled for September 24th.

Reminder. If you would like to discontinue your receipt of these reports or if you know of individuals who would like to begin receiving this information in 2007, please contact Mrs. Sandy Roberts by email (sroberts@srrc.ars.usda.gov). Emailing insures address accuracy. Information regarding USDA research activities can also be found on our website: www.ars.usda.gov/msa/srrc/sru .

Maturity reports are prepared by Dr. Ed Richard of the USDA-ARS Sugarcane Research Lab.

Maturity studies on first-stubble cane grown on mixed land at the Ardoyne Farm, USDA-ARS, SRRC, Sugarcane Research Unit, Houma, LA, September 10, 2007[1].

Variety	Year	Stalk[2]				Normal juice[3]			Sugar yield	Previous sample date[4]	TRS change from previous sample
		Wt.	Lh.	Dia.	Density	Bx.	Su.	Pu.	TRS	TRS	
		(lb.)	(in.)	(in.)	(g/cm3)	(%)	(%)	(%)	(lb.)	(lb.)	(lb.)
LCP 85-384	2007	1.4	77	0.72	1.20	13.10	9.68	73.88	167.8	134.1	33.7
	2006	1.7	86	0.80	1.15	12.84	9.18	71.46	156.2	108.6	47.6
	2005	1.3	72	0.78	1.05	13.28	9.31	70.11	156.5	no data	0.0
	2004	1.5	81	---	---	14.34	10.85	75.55	190.6	148.5	42.1
	2003	1.5	74	---	---	13.97	10.60	75.80	186.4	147.4	39.0
HoCP85-845	2007	1.6	74	0.84	1.12	14.28	11.26	78.82	202.1	172.1	30.0
	2006	2.1	81	0.92	1.04	13.13	9.82	74.74	171.3	135.5	35.8
	2005	1.7	76	0.85	1.03	13.86	10.45	75.39	183.2	no data	0.0
	2004	1.8	72	---	---	14.76	11.54	78.14	206.1	175.3	30.8
	2003	1.6	69	---	---	14.32	11.32	79.06	203.5	167.6	35.9
HoCP 91-555	2007	1.5	75	0.76	1.14	14.92	11.02	73.86	189.2	152.6	36.6
	2006	1.5	79	0.73	1.22	13.44	8.90	66.18	142.8	90.6	52.2
	2005	1.5	72	0.79	1.07	14.08	9.74	69.18	160.8	no data	0.0
	2004	1.5	82	---	---	14.65	10.41	71.04	175.2	131.8	43.4
	2003	1.4	72	---	---	15.01	11.33	75.38	196.8	171.8	25.0
Ho 95-988	2007	2.0	81	0.87	1.10	13.15	9.27	70.47	156.4	134.4	22.0
	2006	2.1	85	0.88	1.15	12.71	8.57	67.42	140.5	93.5	47.0
	2005	1.8	80	0.90	0.99	13.33	9.22	69.14	153.7	no data	0.0
	2004	---	---	---	---	---	---	---	---	---	---
	2003	---	---	---	---	---	---	---	---	---	---
HoCP 96-540	2007	1.8	83	0.82	1.18	13.61	10.14	74.47	178.2	160.2	18.0
	2006	1.8	84	0.80	1.22	12.77	8.93	69.83	151.3	118.2	33.1
	2005	1.8	78	0.85	1.04	13.39	9.61	71.72	163.7	no data	0.0
	2004	1.7	77	---	---	14.56	10.89	74.74	191.9	147.5	44.4
	2003	1.7	75	---	---	13.79	10.20	73.93	178.6	160.2	18.4
L 97-128	2007	1.8	88	0.81	1.14	15.12	11.76	77.80	209.7	182.3	27.4
	2006	2.1	97	0.86	1.08	14.10	10.35	73.41	180.6	144.9	35.7
	2005	1.8	83	0.81	1.06	14.79	11.02	74.54	193.9	no data	0.0
	2004	1.9	90	---	---	16.03	12.60	78.59	228.0	184.0	44.0
	2003	1.6	79	---	---	15.83	12.45	78.62	225.2	195.9	29.3
L 99-226	2007	2.0	85	0.85	1.19	13.68	10.14	74.08	177.7	164.6	13.1
	2006	2.1	84	0.90	1.11	13.77	9.90	71.82	170.6	120.2	50.4
	2005	2.0	82	0.90	1.04	13.75	9.97	72.51	172.7	no data	0.0
	2004	---	---	---	---	---	---	---	---	---	---
	2003	---	---	---	---	---	---	---	---	---	---
L 99-233	2007	1.4	93	0.68	1.23	13.39	9.61	71.71	162.1	141.4	20.7
	2006	1.6	90	0.72	1.21	12.93	8.94	69.00	148.9	104.6	44.3
	2005	1.4	84	0.75	1.00	14.39	10.53	73.15	181.5	no data	0.0
	2004	1.4	87	---	---	14.41	11.12	77.04	197.4	140.3	57.1
(Cont'd.)	2003	---	---	---	---	---	---	---	---	---	---

Variety	Year	Stalk[2]				Normal juice[3]			Sugar yield	Previous sample date[4]	TRS change from previous sample
		Wt.	Lh.	Dia.	Density	Bx.	Su.	Pu.	TRS	TRS	
		(lb.)	(in.)	(in.)	(g/cm3)	(%)	(%)	(%)	(lb.)	(lb.)	(lb.)
HoCP 00-950	2007	1.8	75	0.87	1.12	16.29	13.08	80.28	241.6	201.3	40.3
	2006	---	---	---	---	---	---	---	---	---	---
	2005	---	---	---	---	---	---	---	---	---	---
	2004	---	---	---	---	---	---	---	---	---	---
	2003	---	---	---	---	---	---	---	---	---	---
Averages[5]	2007	1.6	82	0.77	1.17	14.07	10.58	75.09	184.9	157.1	27.7
	2006	1.8	84	0.80	1.19	12.94	8.90	68.72	147.7	102.7	45.0
	2005	1.6	77	0.81	1.05	13.86	10.01	72.13	171.2	no data	0.0
	2004	1.6	82	---	---	14.68	11.06	75.21	194.2	151.3	42.9
	2003	1.6	72	---	---	14.37	10.96	76.09	193.5	164.3	29.1

[1] Data for each parameter represents the average of four replications of 15 stalks each.

[2] Stalk diameter and density based on a subsample consisting of 8 randomly selected stalks from the 15-stalk sample of each rep.

[3] Brix factor = .8854; Sucrose factor = .8105.

[4] Previous sample date was August 27, 2007.

[5] Averages are based only on varieties included in previous year's first-stubble maturity study (LCP 85-384 HoCP 85-845, HoCP 91-555, HoCP 96-540, L 97-128, and L 99-233).